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Cal/EPA Environmental Justice Action Plan
ARB Wilmington Pilot Project Update

May 31, 2007

I. **Lead Cal/EPA Board, Department or Office (BDO):** Air Resources Board (ARB)

II. **Project Area:** The community of Wilmington is in the Los Angeles metropolitan area, located adjacent to the Port of Los Angeles and is home to many large industrial facilities. After evaluating numerous communities and holding local meetings in several communities, Wilmington, was selected for the pilot project work. In Wilmington, residential areas and schools are interspersed between a multitude of transportation and industrial facilities, raising potential public health concerns.

Area Demographics: 6% African-American; 8% Asian; 71% Hispanic or Latino (of any race); 13% White; 2% other; and 23% living below the poverty level.

III. **Project Start Date:** June 2005

Project Goals & Objectives: ARB pilot project titled, "Reduction of Air Pollution Exposure in Urban Communities in Southern California" is designed to focus on reducing air pollution exposure and risk to children. The overall goal of the project is to better understand cumulative impacts from air pollution in Southern California communities, incorporate environmental data from other media where available and to reduce community health risk from air pollution.

In this context, the objectives of the project are the following:

- Improve understanding of sources of air pollution in communities where children live and play.
- Identify regulatory and data gaps.
- Identify methods for assessing cumulative impacts and applying precautionary approaches.
- Assess impacts of port, rail, and trucking activity on local communities.
- Explore enforcement and risk reduction opportunities.

The pilot project includes the exploration of ways to assess cumulative risks and to apply precautionary approaches at the community level. While ARB focused this project on community specific issues, the goal has been to identify applications and strategies in this project that can be transferable to other communities throughout the State.

IV. **Project Status:** In an effort to identify appropriate pilot projects, ARB initiated a collaborative effort with community members in Wilmington. A local advisory group (LAG) was formed to identify potential projects.

A. Local Advisory Group (LAG) Meetings:

The LAG meetings were regularly attended by a diverse mix of community, environmental, business, and government representatives. Community members provided written suggestions for projects to be explored by the ARB. In evaluating and assessing the suggested projects, ARB reviewed community suggestions, identified local or state agencies with jurisdiction in those areas, and coordinated with respective authorities.

B. Project Prioritization

ARB worked with the community to prioritize potential projects, make comments, and provide direction on selected projects. Through input gathered at meetings, three project areas, were selected for the Wilmington pilot project. These include the following:

1. Environmental impacts assessment.
2. Impacts of container storage yards.
3. Reducing diesel emissions from trucking operations.

These three Wilmington pilot project areas are nearing completion and are described below.

1. Environmental Impacts Assessment

Wilmington community members raised concerns about the multitude of pollution sources in their communities both at Cal/EPA Environmental Justice Advisory Committee (CEJAC) meetings and in the ARB's LAG meetings. Because of its location, adjacent to a concentration of industrial facilities, goods movement-related facilities, and other sources of pollution, the Wilmington area may be subject to a greater concentration of air pollution sources, hazardous waste, soil contamination, and water contamination sites.

For the Wilmington Environmental Impacts Assessment, ARB focused on identifying sources of air pollution but also incorporated other environmental data, where available. There are two main components to this Project. The first component involved both the identification of all the pollution sources in the Wilmington area and the development of a tool to make that information available to community members. The second component involves the development of a modeling tool that will enable us to evaluate the air pollution cumulative risk within the community. Combined, these tasks will help ARB assess the cumulative impacts from pollution in Wilmington.

Activities

i. Identification of Air Pollution Sources

ARB began by developing a comprehensive inventory of air pollution sources. ARB staff compiled this information and mapped the results using a Geographic Information System (Figure 1). The resulting map shows that there are several hundred air pollution sources in the Wilmington area. Most of these are small air

pollution sources. In addition, the map shows intermodal facilities and distribution centers in Wilmington that attract diesel trucks and represent a significant source of pollution within the community.

ii. Assessment of Cumulative Impacts from Air Pollution Sources

To assess the cumulative air pollution impacts at the community level, ARB is in the final stages of developing the Community Evaluation Tool (COMET) which is a community-level air pollution cumulative risk modeling approach that can estimate cumulative risk at the neighborhood level. When completed, COMET will be able to evaluate the combined air pollution impacts of facilities, major roadway links and regional air pollution. COMET will be capable of reporting cumulative air pollution emissions, exposure, and cancer risk. By the end of the year, ARB will demonstrate the functionality of the COMET in the Wilmington and adjacent areas.

iii. Identification of Multi-Media Pollution Sources

Wilmington community members were not just interested in the cumulative impacts from air pollution, but of all pollution sources in the Wilmington area, such as water, soil, solid waste, and hazardous waste contamination. There are no generally accepted methods for assessing cumulative impacts for cross media pollution exposure. While there is currently no quantitative approach to assessing multi media impacts, ARB collected available data on all local pollution sources in the hope that it would prove of use once the Office of Environmental Health Hazard Assessment (OEHHA)'s cumulative impacts guidance is developed.

ARB consulted a variety of data sources to compile an inventory of the different types of pollution sources. Information was collected on soil contamination sites, water contamination sites and sites with hazardous materials. A map showing the results of this effort is in Figure 2. This information can be used to get an overall view of the sources of pollution in the Wilmington area, to understand the spatial relationships between sensitive receptors and sources of pollution, and to provide the starting point for future work on evaluating the overall cumulative impacts of all types of pollution in the Wilmington area.

iv. Project Outcomes

- Improved understanding of air quality impacts at the community level.
- Improved understanding of methods to estimate cumulative impacts.
- Development of community-level cumulative air pollution impact model.

v. Next Steps

ARB will update the Wilmington air emission inventory and motor vehicle traffic information and test the COMET model on the Wilmington area to map cumulative exposure, cancer risk and chronic health risk. Work had been on hold pending approval of a contract for model development and obtaining high resolution motor vehicle data from Southern California Association of

Governments (SCAG). Both of these issues have now been resolved, and we are moving ahead with COMET development. Because at this stage the modeling will include some data sets that are considered preliminary and unofficial, we will be limited initially to show qualitative ranges and relative differences, pending receipt of officially approved data sets.

2. Wilmington Container Storage Yards

Community Concerns about Container Yards

During LAG meetings, the community members expressed concerns about the growth in shipping container storage yards in the Wilmington area. Community members questioned whether adequate review of the siting, operation, and environmental impacts of these facilities was being exercised by the City of Los Angeles. The community members concerns included: environmental contamination from potential hazardous materials previously or currently enclosed in the containers and rusting containers with peeling paint, air quality impacts from yard equipment emissions, diesel truck emissions, repair operations and dust, safety hazards associated with container stack height, noise, visual blight, illegal dumping and rodent infestations.

Working with Local Agencies

ARB worked extensively with the City of Los Angeles Department of Building and Safety, Department of Environmental Affairs, and Planning Department, and the Office of Council woman Janice Hahn to identify container storage locations in the Wilmington area and gather and review the city ordinances governing the operation of these yards. With the information collected on container storage yard locations, ARB produced a map showing the locations and distribution of existing yards. In addition, zoning information was incorporated into the map to show new zoning restrictions on the siting of new container storage facilities (Figure 3). In a parallel effort, Janice Hahn's Office pushed through new, more restrictive, zoning requirements for future container storage yards in the Wilmington/San Pedro area.

Community Capacity Building

In our effort to help the community understand the requirements container storage yards must adhere to, ARB invited an Enforcement Officer from the City of Los Angeles who attended one of the Wilmington LAG meetings. The Enforcement Officer outlined container yard operating and safety requirements and that these facilities were inspected on a regular basis. The Enforcement Officer acknowledged that there are many violations and cases of blight in the Wilmington area and encouraged residents to report problems to his department for investigations. Bringing the community and enforcement officers together has strengthened both the communities awareness of City's efforts and has helped the City better understand community concerns. Another benefit of the meeting was it provided the community with the appropriate contacts for any future complaints or concerns regarding container storage yards.

Project Outcomes

- Identified local agencies responsible for regulating container storage yards.
- Highlighted community concerns to local agencies.
- Provided community with information on location and rules governing operation of container storage facilities.
- Used LAG process to bring residents and responsible local agencies together to discuss local concerns.
- Provided residents with contact information for local enforcement agencies responsible for compliance.

3. Near-Term Approaches for Reducing Diesel Particulate Emissions from Trucking Operations in Wilmington

Project Description and Community Concerns

Wilmington has a high concentration of trucking and freight facilities, including intermodal and distribution centers. The community expressed concerns about excessive truck traffic and truck idling at these facilities. A map of intermodal facilities and distribution centers in the Wilmington area is shown in Figure 4. Implementation of ARB's diesel risk reduction program will reduce the health risk from diesel statewide and the recently approved Goods Movement Action Plan and Emission Reduction Plan for Ports and Goods Movement in California will result in additional measures to reduce diesel particulate matter (PM) exposures in communities near major goods movement activities such as ports and railyards. The community wanted progress to be made in the near-term in reducing community exposures to diesel particulate matter.

The goal of this aspect of the Wilmington pilot project was to identify ways to achieve near-term reductions by exploring opportunities for reductions in emissions from diesel trucks and equipment used in the Wilmington area. To that end, ARB looked at the use of already available incentive programs, enforcement and compliance activities, and possible improvements that would reduce diesel emissions within the community.

Available Incentive Programs to Reduce Diesel Particulate Emissions

Many diesel trucks serving the ports are older model years driven by independent truck owners. These trucks are typically short haul frequent visitors of the ports whose emissions that impact local communities including Wilmington. Incentive programs to replace or retrofit these frequent visit trucks offer one way to help attain the near-term goal of reducing diesel PM emissions in the area. There are a number of already available incentive programs aimed at reducing diesel emissions through cleaning up diesel trucks and equipment. These programs include the Carl Moyer Program, Gateway Cities Clean Air Program, and the Port of Los Angeles Air Quality Mitigation Incentive Program.

ARB worked with diesel engine owners, especially owners of diesel trucks and equipment used primarily in the Wilmington area, to help match them up with the

appropriate incentive program opportunities. ARB staff met with trucking company representatives, local port truck drivers and other businesses operating diesel engines to provide information on available incentives and to discuss the applicability of the programs for qualified engines. ARB staff has worked to facilitate participation in available incentive programs through education and outreach to these owners or operators. The two projects in this effort are described below.

i. Pacific Maritime Association Diesel Engine Replacement Grant Proposal

The Pacific Maritime Association (PMA) is a company primarily involved in the negotiation and administration of maritime labor agreements with the International Longshore and Warehouse Union. The company also runs a training facility located one block from residences in Wilmington. The Wilmington training facility provides training primarily on the operation of heavy-duty diesel trucks or semi tractors, but it also provides training on cranes and other cargo handling equipment used in port operations. Classes are held for new students as well as refresher courses for experienced operators. To accommodate the high demand for this sort of training, the PMA training facility operates 2 class shifts, one that runs from 8:00 am to 4:00 pm and another that runs from 4:00 pm to 12:00 am, five to six days per week, with 10-13 students participating in each session.

The PMA training facility produces localized diesel emissions from older trucks and equipment (mostly ten or more years old) on a fairly continuous basis (8:00 am – 12:00 am), five to six days per week. There are around twenty diesel trucks and ten large, diesel, cargo-handling forklifts at the training facility.

ARB provided PMA staff and the Port of Los Angeles staff with information to facilitate the preparation and submittal of a grant proposal for replacing or retrofitting the diesel engines used at the training facilities. The PMA proposal was submitted to the Ports in late 2006. The proposal has been reviewed by the Port Community Advisory Committee and recommended for funding. If approved by the Port of Los Angeles Board of Harbor Commissioners, this proposal will provide funding for the retrofit or replacement of the old diesel trucks and equipment used at the training facility.

ii. Independent Truck Lessor/Owners

In addition to working with companies such as PMA, ARB was able to build relationships with independent truck owners in the port area through contacts made in the LAG process. Independent port truck owners have historically been underrepresented in regulatory matters because of their low income, immigrant status, and can not speak English well. These independent port truck owners tend to drive older, dirtier short haul trucks. Providing information to these locally-based truck owners could have a significant benefit to the Wilmington community and could increase independent port truck owners involvement in local decision-making.

Working with Local Truck Driver Associations
ARB made contact with leaders and active members of the local port truck drivers organization. As a result, these members began participating in LAG meetings. ARB's initial priority was to inform the members of its regulatory efforts and ongoing meetings on incentive programs where their input would be beneficial. ARB also facilitated meetings between truckers and ARB enforcement staff to ensure that the drivers were aware of ARB's existing regulations.

Other Diesel Emission Reduction Efforts at ARB
In another effort to limit diesel emissions, ARB adopted regulations restricting the idling time of school buses and diesel trucks to reduce diesel exhaust particulate matter and other toxic air contaminants (TACs) from heavy-duty motor vehicle exhaust. The regulation affects operators of school buses and diesel fueled commercial motor vehicles that weigh more than 10,000 pounds operating in California, regardless of the state or country in which the vehicle is registered. The regulations require that school bus drivers turn off their engine upon arriving at or within 100 feet of a school and restart the engine no more than 30 seconds before departing. In addition, drivers are prohibited from idling their trucks for more than five minutes at locations beyond schools such as bus stops, or school activity destinations. Transit and delivery vehicle drivers must not idle their engine for more than five minutes at any location.

As part of the Wilmington LAG process, ARB Enforcement Division staff participated in a LAG meeting to inform residents about diesel truck and bus idling restrictions. Division staff answered questions from residents and provided information on how residents could report violations of idling restrictions. ARB also conducted, and will continue to conduct, roadside enforcement of the idling restrictions for school buses and diesel trucks at several locations in the area.

Project Outcomes
- Worked with local facilities to identify approaches to achieve near-term reductions in diesel particulate emissions.
- Provided information to a local facility to submit a grant request for funding to clean up older diesel trucks and equipment.
- Provided educational materials to residents on idling restrictions and process for reporting instances of excessive idling.
- Provided information to local truck drivers associations and discussed availability of incentive programs.
- Raised awareness about the institutional barriers to small truck drivers participating in incentive programs.
- Facilitated meetings between local truck drivers and ARB staff working on regulations affecting port trucks.

Next Steps
ARB will not be initiating any new initiatives in this area for the pilot project but

intends to continue to work to identify frequent visitor trucks and other diesel equipment in the port area and facilitate participation in available incentive programs. In particular, ARB intends to continue its relationship with the local truck driving groups to understand their concerns and seek input on future port truck regulations and incentive programs

4. Other Parallel Projects

In addition to ARB's planned elements of the pilot project, there were two parallel projects that occurred in the Wilmington community.

Methyl Bromide Fumigation Facilities

The Wilmington community expressed concerns about the health risks associated with methyl bromide fumigation facilities in the Wilmington area. One facility of particular concern to the community is located in a semi-residential area of Wilmington and shares its fence line with residential lots. The community expressed concern over potential exposures that could occur during methyl bromide applications, and they wondered if adequate precaution was being taken in the permitting, monitoring and enforcement of the fumigation activities. Fumigations using methyl bromide and the potential health effects from exposure to methyl bromide, became an important subject at our LAG meetings. The issue presented another area in which to apply the precautionary approach.

ARB shared the communities concerns about methyl bromide fumigation facilities located near residential areas with Department of Pesticide Regulation (DPR) staff. DPR and the Los Angeles County Agricultural Commissioners Office participated in two of the LAG meetings and engaged in a lengthy question and answer period. The Los Angeles County Agricultural Commissioner is responsible for permitting and enforcing regulations at fumigation facilities. A Deputy from the Commissioner's Office explained the permitting requirements for methyl bromide fumigations and a DPR toxicologist presented information on the health effects posed by methyl bromide. The Commissioner's Office Deputy also offered to take community members to a fumigation facility and answer their questions about operations and safety measures. DPR has indicated that it will be conducting some site-specific modeling of methyl bromide fumigation emissions in an effort to ensure that adequate precaution is used with respect to methyl bromide applications and potential exposures.

Harbor Communities Monitoring Project

The pilot project work on cumulative impacts coupled with community involvement in the Wilmington LAG was a major consideration in the selection of Wilmington for an ARB sponsored monitoring study, the "Harbor Communities Monitoring Project". The goal is to develop improved technical tools for assessing pollutant concentration variability and identify hot spots in California communities. There are three separate tasks that are being undertaken. The first task involves the use of an electric vehicle outfitted with air pollution instruments to examine variations in air pollution levels at varying distances from air pollution sources. The second task entails testing the

effectiveness of low-cost passive monitors for community monitoring. Finally, the third task looks at ultra-fine particles near freeways using a mobile monitoring platform to measure real-time changes in air pollution. Each of these studies will document air pollution levels in Wilmington and may prove very useful in validating the results from the cumulative impact modeling being done as part of the pilot project.

To facilitate a better understanding by the community of the air quality monitoring projects, the pilot project team organized informational meetings on the Wilmington monitoring studies. These meetings provided a forum to inform and seek input from the communities and other stakeholders about the various monitoring efforts underway in the Wilmington area. Presentations were given by ARB, South Coast Air Quality Management District, the Port of Los Angeles and Port of Long Beach, University of California Los Angeles, University of Southern California, and the Desert Research Institute.

LAG participants were also instrumental in assisting the researchers in identifying and procuring monitoring sites for the studies

5. Identification of Data Gaps

Cumulative Impacts Analysis

A refined community level assessment of cumulative impacts of air pollution requires detailed air pollution source information. While detailed information was collected to develop a comprehensive inventory of stationary air pollution sources in the Wilmington area, the same level of detail is not available for mobile sources and off-road equipment. This has proven to be a major data gap in assessing cumulative impacts. Also, most air quality models are designed to model large areas, but community-level cumulative impact analysis requires micro-scale models that can resolve block to block differences. ARB also found that, while emissions data from point sources is routinely collected, the release parameters are generally not also reported. These release parameters are critical when trying to examine near-source impacts. ARB staff developed a computer program capable of assigning default release parameters based on the type of facility to fill in the missing data. It was also a challenge to track down information on other pollution sources in such as water, soil, solid waste, and hazardous waste contamination. Staff found that data on these sources were found in a multitude of databases. ARB was only capable of identifying the multi-media sites because there is no accepted method for multi-media cumulative risk assessment. The OEHHA is investigating and will try to develop a multi-media method.

6. Progress Made in Addressing Cumulative Impacts

Cumulative Impacts

ARB worked with the Wilmington community to develop a comprehensive inventory of pollution sources which serves as the basis for assessing cumulative impacts. ARB has also developed and posted the Community Health Air Pollution Information

System (CHAPIS) that displays maps of air pollution sources on the Internet. This mapping tool allows the public to view a map of a community and the spatial array of facilities and emissions within their community. ARB will expand the extent of this tool by developing statewide cumulative impact maps that will allow the public to view cumulative risk at a much more refined scale than is currently available.

In addition, ARB is developing the COMET, a community-level air pollution cumulative risk modeling approach that can estimate cumulative air pollution emissions, exposure, and cancer risk at the neighborhood level. COMET was developed from the Hot Spots Analysis and Reporting Program (HARP) that is used for risk assessments in the Toxic "Hot Spots" program. This new tool evaluates combined impacts of facilities, major roadway links and regional modeling. COMET performs highly detailed community-level air pollution modeling and can display the results on a map. COMET will be available in late 2007.

The ongoing Harbor Communities monitoring project will provide valuable data to supplement the risk reduction activities and help validate the results from the COMET model. These air monitoring studies will provide highly detailed information on ambient concentrations of air pollutants in the Wilmington area.

7. Progress Made in Addressing Precautionary Approaches

Precautionary Approach and Container Storage Yards

The Wilmington pilot project element that focused on shipping container storage yards provided an opportunity to apply the precautionary approach. As part of the pilot project, ARB applied a precautionary approach by investigating zoning and operational requirements for these facilities as well as the possible environmental health impacts. Because of the potential impacts container storage yards may have, it is important for local and regional land use planners to exercise precaution in the future siting of new container storage yards. The new zoning restrictions on new container facilities should take care of past problems, but it is unclear when all the new operational requirements will be applied to existing facilities. ARB strengthened the community's capacity to bring to the attention of city officials by bringing residents together with the city of Los Angeles' enforcement officials.

Methyl Bromide Fumigation Facilities

ARB shared community concerns with appropriate agencies that adequate precaution was not being used in the siting and operation of methyl bromide fumigation facilities. DPR will be doing modeling to evaluate whether the current operational set back are health protective. DPR is also providing related information to community representatives as part of the Goods Movement Action Plan process

8. Progress Made to Improve Public and Stakeholder Participation

Community Collaboration

ARB's project activities are structured around community concerns and guided by

community input. Efforts to engage and inform the public and encourage public participation began early through LAG meetings, internet based information sources, and list serve announcements. Through a series of Wilmington LAG meetings, a list of suggested projects was created, prioritized and three project areas were selected for inclusion in the pilot project. The selection, direction and focus of these projects have been a collaborative effort with community members and have been primarily community driven.

Community Outreach

Prior to scheduling each LAG meeting, ARB makes an effort to contact some of the key community members and community groups by phone to determine if there are any existing conflicts with scheduling to allow maximum participation. In addition to avoiding potential existing conflicts, this advance notice gives participants the ability to add the meeting to their calendars and avoid any future conflicts that may arise. The initial contact with participants is followed up with a meeting notice sent out to the Wilmington list serve approximately a month prior to the scheduled meeting and a reminder email two weeks before. ARB also gives a courtesy phone call to some of the key participants a week prior to the meeting as a reminder of the meeting date and time.

To encourage new attendees and to maintain the interest of long term participants at the LAG meetings, ARB staff has asked participants to identify environmental issues, questions or concerns that are of interest to the group and arranged for guest speakers to cover those topics. In response to comments from the LAG, ARB staff arranged for outside speakers to give presentations at the LAG meeting on topics such as methyl bromide fumigation facilities, code enforcement at container storage facilities, and enforcement activities for diesel trucks.

Community Capacity Building and the Public Participation Guide

In efforts to aid public participation, ARB produced and has been distributing the Public Participation Guide to Air Quality Decision Making in California. This document provides the reader with the basic tools and information needed to understand and participate in the air pollution policy, planning, permitting, and regulatory decision-making processes in California. The guide includes the following:

- Overview of the government agencies responsible for controlling air pollution.
- Agency contact information.
- Directions on how to resolve air pollution complaints.
- Tips on how to find information about local sources of air pollution.
- Steps one can take to get involved in air quality issues in their community.

ARB has attended numerous community events and staffed informational booths to promote community involvement, disseminate information and answer community questions.

Identification and Relationship Building with Stakeholder Groups

ARB continuously solicits input from community and business representatives on locating other unidentified interested stakeholders and contacts. Previously uninvolved stakeholders were brought into the process as a result of the Wilmington LAG process.

Wilmington Neighborhood Assessment Program (NAP) Facilities

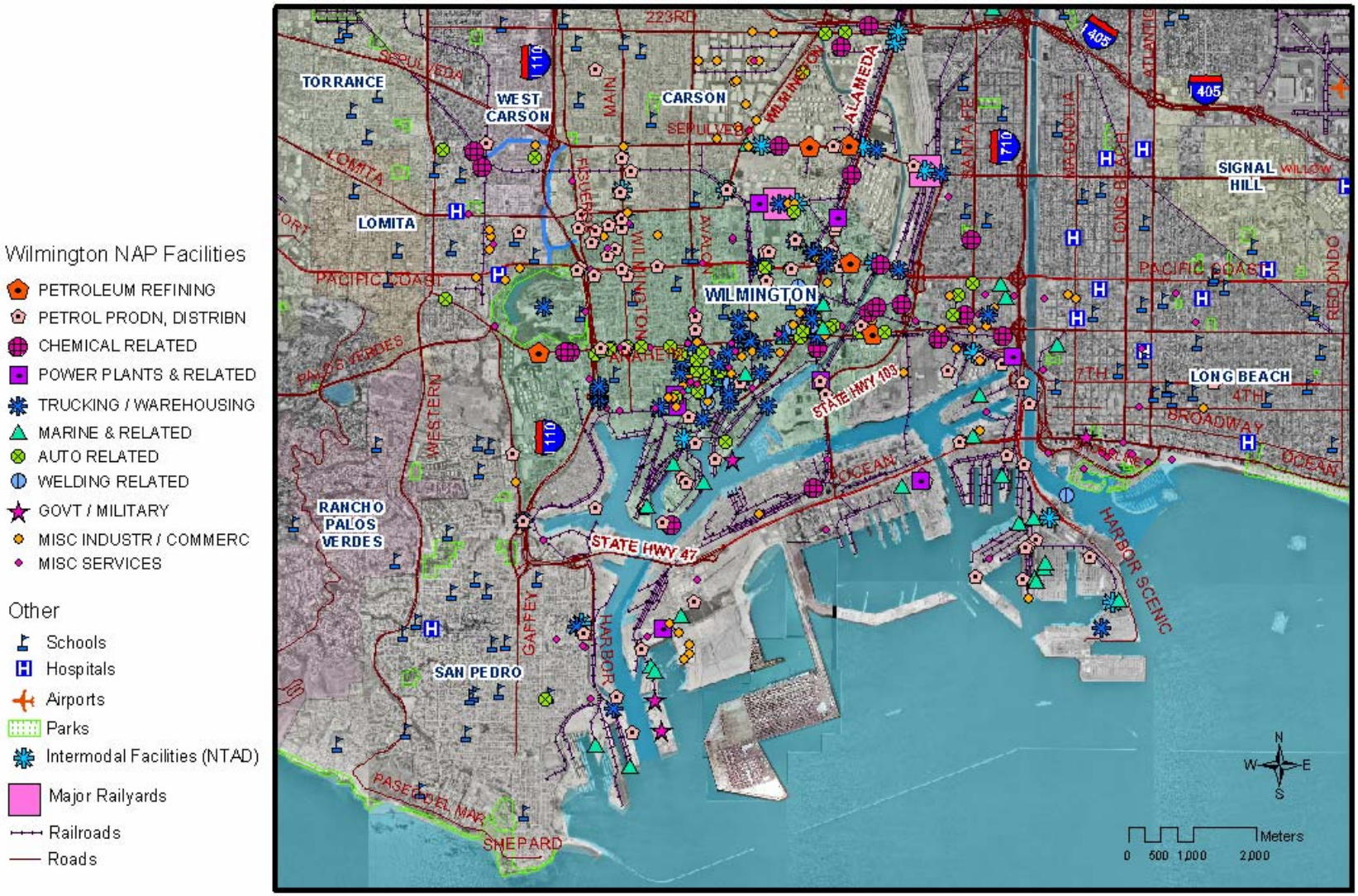

Figure 2

Wilmington Area - Various Hazardous or Other Waste Generators and Sites
(Preliminary Data Assessment)

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NOTE 1: CERCLIS sites are those being evaluated for possible Superfund inclusion (US EPA)

NOTE 2: Dept. of Toxic Substances Control - data for Large Quantity Generators, Resource Conservation and Recovery Act (RCRA), Site Mitigation and Brownfields Reuse (CalSites) data and deed restrictions, and list of Site Cleanup Projects

NOTE 3: SWIS is the Solid Waste Information System of the Calif. Integrated Waste Management Board (CIWMB)

NOTE 4: Water information - National Pollutant Discharge Elimination System (NPDES) important dischargers, Spills, Leaks, Investigations and Cleanup (SLIC) program, and Leaking Underground Fuel Tank (LUFT) program

Figure 3

Wilmington Area - Container Storage Yards

(Draft Data Assessment - ACTA 2004 Survey, City of LA, and Community-Identified Storage Yard Areas)

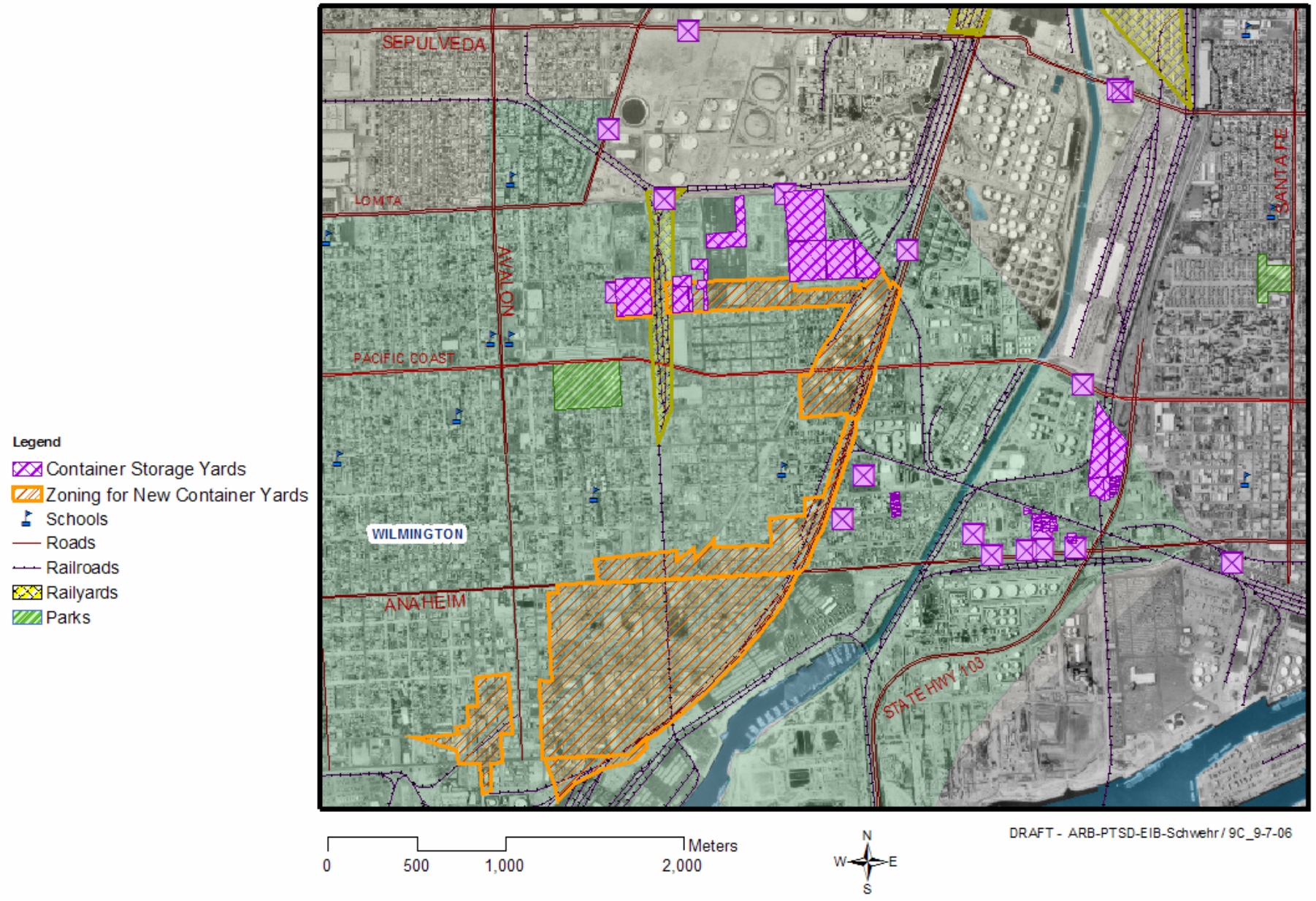
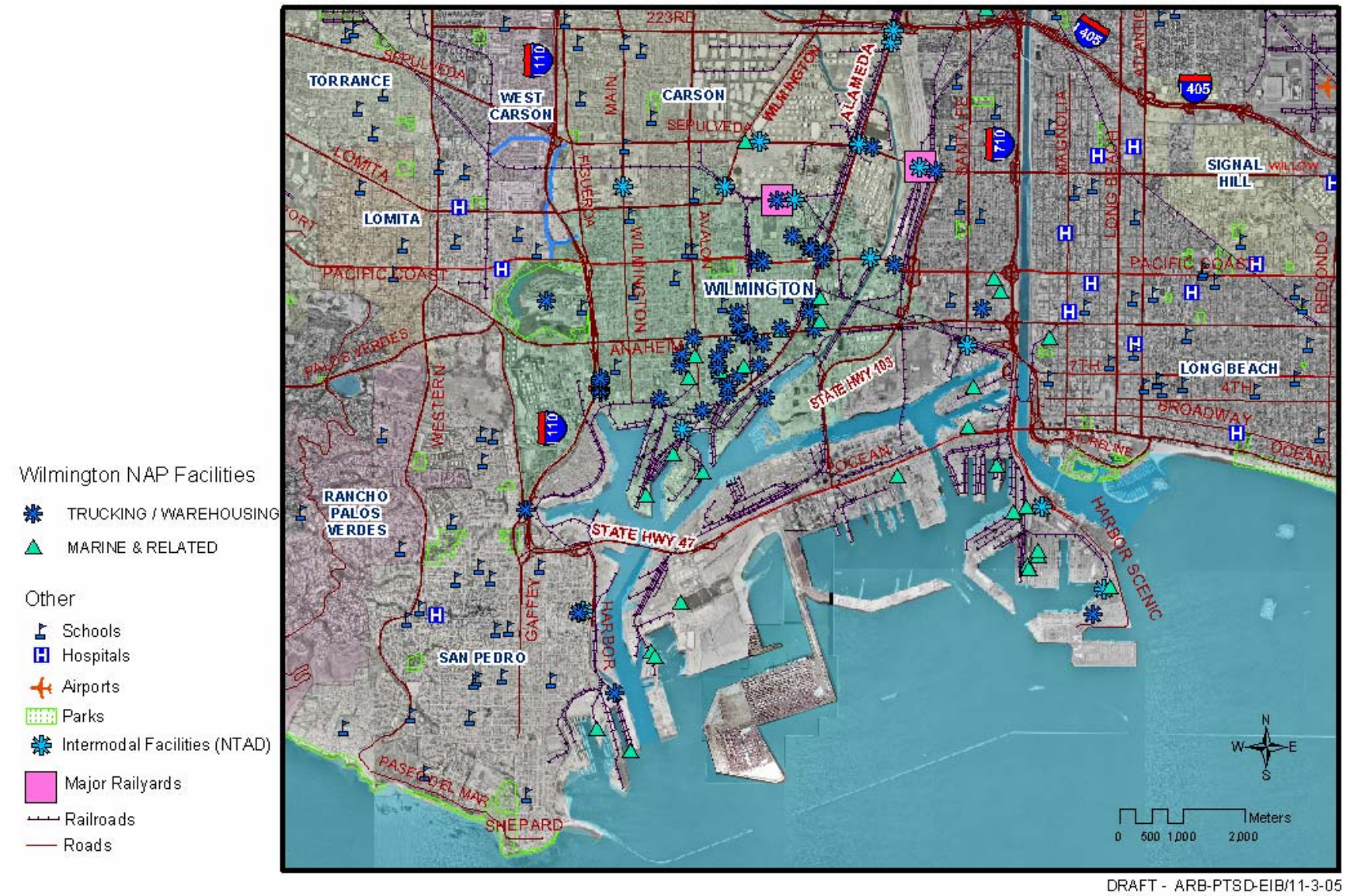


Figure 4

Wilmington Neighborhood Assessment Program (NAP) Facilities

-- Trucking/Warehousing and Marine-Related Facilities --



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